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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/003,725	10/30/2001	Shawn Stapleton	BWD:2353.005	2647
23400	7590	03/03/2004	EXAMINER	
POSZ & BETHARDS, PLC 11250 ROGER BACON DRIVE SUITE 10 RESTON, VA 20190			CHOE, HENRY	
			ART UNIT	PAPER NUMBER
			2817	

DATE MAILED: 03/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/003,725	STAPLETON, SHAWN	
	<b>Examiner</b>	<b>Art Unit</b>	
	Henry K Choe	2817	<i>pw</i>

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 28 January 2004.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-65,68-70 and 76-83 is/are pending in the application.  
 4a) Of the above claim(s) 39-65,68-70 and 76 is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-4,6-9,11,16,17,21-25,28,33-37,77-79,82 and 83 is/are rejected.  
 7) Claim(s) 5,10,12-15,18-20,26,27,29-32,38,80 and 81 is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____ .  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>1/28/04</u> | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 6-9, 11, 21, 25, 28, 33-37, 77-79, 82 and 83 are rejected under 35 U.S.C. 102(b) as being anticipated by Tripathi et al (Fig. 2).

Regarding claims 1-3, 6-9, 11, 21, 28, 33-37, 77-79, 82 and 83, Tripathi et al (Fig. 2) discloses an amplifier circuit comprising a delta sigma modulator (206, 210) which is connected to receive an input signal (input) and produces a bi-level modulation signal (output of 210), a switching mode power amplifier (212) which is driven by the bi-level modulation signal (output of 210) and having an output (output), and a linearizer (204, 202, 208, 214, 216) which is coupled to the input signal (input) and the RF signal (output) to supply a corrective signal (output of 208) at a location prior to the switching mode power amplifier (212) wherein the linearizer (204, 202, 208, 214, 216) using an adaptive process.

Regarding claims 4 and 25, Tripathi et al (Fig. 2) inherently includes a tunable output filter since it would not work without the filter.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 16, 17 and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tripathi et al (Fig. 2).

Tripathi et al (Fig. 2) discloses all the limitations in the claims except for that the passband at a frequency in excess of 300KHz and 800MHz, and the switching mode power amplifier is located within 2 meters from the antenna and the delta sigma modulator is located more than 5 meters from the antenna. It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the specific frequency of the passband and specific distances between the switching mode power amplifier and antenna, since they are based on the routine experimentation to obtain the optimum operating parameters.

#### ***Allowable Subject Matter***

Claims 5, 10, 12-15, 18-20, 26, 27, 29-32, 38, 80 and 81 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Reasons for Allowance***

The following is a statement of reasons for the indication of allowable subject matter: Regarding claim 5, the closest prior art of record, Tripathi et al (Fig. 2 ) does not disclose the following limitation: digital to analog converter and its functional limitations. Regarding claim 10, the closest prior art of record, Tripathi et al (Fig. 2) does not disclose the following limitation: the transmission medium includes an optical transmission medium and the first coupling circuit includes an electro optical coupler. Regarding claim 12, the closest prior art of record, Tripathi et al (Fig. 2) does not disclose the following limitation: the transmission medium includes a microwave radio link and the first coupling circuit includes a high speed digital modulator and the second coupling circuit includes a high speed digital demodulator. Regarding claim 13, the closest prior art of record, Tripathi et al (Fig. 2) does not disclose the following limitation: the transmission medium includes a path through signal carriers and the first coupling circuit includes a high speed digital modulator and the second coupling circuit includes a high speed digital demodulator. Regarding claim 14, the closest prior art of record, Tripathi et al (Fig. 2) does not disclose the following limitation: the transmission medium includes a coaxial cable. Regarding claim 15, the closest prior art of record, Tripathi et al (Fig. 2) does not disclose the following limitation: the extended interface is bidirectional. Regarding claim 18, the closest prior art of record, Tripathi et al (Fig. 2) does not disclose the following limitation: the linearizer circuit generates the corrective signal and the feedback signal is carried on the extended interface. Regarding claim 28, the closest prior art of record, Tripathi et al (Fig. 2) does not disclose the following limitation: the switching mode power amplifier includes an electrically variable voltage bias power supply and a mechanism connected to vary the voltage of the bias power supply. Regarding claim 29, the closest prior art of record, Tripathi et al (Fig. 2) does not disclose the following limitation: the switching mode power amplifier includes a

Art Unit: 2817

plurality of parallel connected amplification circuits and a mechanism connected to adjust the output power. Regarding claim 31, the closest prior art of record, Tripathi et al (Fig. 2) does not disclose the following limitation: a mechanism and its functional limitations. Regarding claim 37, the closest prior art of record, Tripathi et al (Fig. 2) does not disclose the following limitation: the power supply includes an electrical storage cell charge by the wind generator and DC/DC converter.

***Response to Arguments***

Applicant's arguments with respect to claims 1-4, 6-9, 11, 16, 17, 21-25, 28, 33-37 and 77-79, 82 and 83 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Henry Choe whose telephone number is (571)272-1760.



HENRY CHOE  
PRIMARY EXAMINER

#823